AC – DC

Features

- Voltage Input Range 180~550V AC or 254~848V DC
- Operating Temperature Range: -30°C~+85°C
- Built-in DC OK relay Contact
- High-Efficiency up to 90.5%
- Safety Standards to EN/BS EN 62368-1
- Output SCP, OCP, OVP, OTP
- Three Years Warranty

Ideal Power's 56YSDW60-xy 60W DIN Rail Mount AC/DC Power Supply Converter Series are certified to UKCA, CE, cULus & UL 661010-1/BS EN 62368-1/EN 62368-1 Standards and comply with the relevant Efficiency Regulations. These are primarily used in ITE, Audio & Video Industries and customised solutions are available upon request.

Models

Model Number*	Output Power (W)	DC Voltage (V)	Current Range (A)	Voltage Adj Range (V)	Efficiency at 230V AC (%) Typ	Ripple & Noise (mVp-p)
56YSDW60-5	50	5	10	5~6	83.5	100
56YSDW60-12	60	12	5	12~15	86.5	120
56YSDW60-24	60	24	2.5	24~29	89	150
56YSDW60-48	60	48	1.25	48~57	90.5	200

Input Specifications

	Conditions	Min	Typ	Max	Unit
Input Voltage Range	AC input	180	--	550	VAC
	DC input	254	--	848	VDC
Frequency Range		47	--	63	Hz
AC Current	400V AC	--	0.4	--	A
	230V AC	--	0.7	--	
Inrush Current		COLD START 50A/400V AC 30A/230V AC			
Leakage Current		<2mA/530V ac			

Output Specifications

	Conditions	Min	Typ	Max	Unit
Voltage Tolerance		--	±2.0	--	%
Line Regulation		--	±0.5	--	
Load Regulation	56YSDW60-5	--	±1.5	--	
	Others	--	+0.5	--	
Set up, Rise Time		1000ms, 70ms, 20ms/400VAC at full load			
Hold up Time		2000ms, 70ms, 10ms/230VAC at full load			

Protection

Overload Protection	>105%-135% rated output power: Protection type: Hiccup mode when output voltage <50%, recovers automatically when the fault condition is removed. Constant current limiting within <50%~100% rated output voltage recovers automatically when the fault condition is removed.	
Over Voltage Protection	Shut down o/o voltage, repower on to recover.	
	56YSDW60-5	6.2~7.2
	56YSDW60-12	16~18
	56YSDW60-24	31~37
	56YSDW60-48	58~60.5
Protection Type	Shut down o/p voltage repower on to recover.	
Over Temperature	Shut down o/p voltage re-power on to recover.	

Environmental Characteristics

Item	Operating Conditions
Operating Temperature	-30℃ to 85℃ (Refer to "Derating Curve")
Operating Humidity	20 ~ 90% RH non-condensing
Storage Temperature	-40°C ~ 85 °C
Cold Start	-40°C
Temp Coefficient	± 0.03%/°C (0~60°C)
Vibration	10~500Hz, 2G 10min/1cycle, 60min each along x, y, z axes. Mounting clip: Compliance to IEC60068-2-6
MTBF	1854.1K hrs min, Telcordia SR-332 (Bellcore)
Operating Altitude	2000 meters
Over Voltage Category	II: According to EN 61558, EN 50178, EN 60664-1, EN62477-1, EN 60204-1: Altitude up to 200 meters
MTBF	160K hrs min, Telcordia SR-332 (Bellcore)

Safety & EMC

Safety Standards	UL61010-1, UL61010-2-1, BS EN/EN62368-1
Withstand Voltage	I/P-O/P:4.7KVAC I/P-FG:2.5KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25℃/70% RH

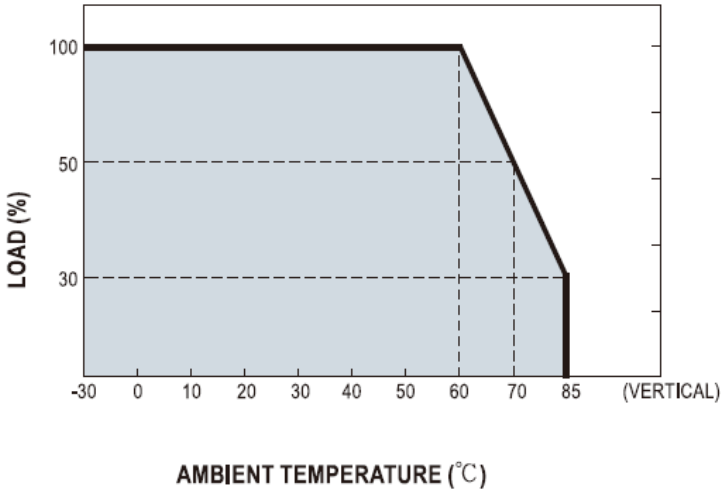
EMC Emissions	BS EN/EN55032, BS EN/EN61000-3-2, -3
EMC Immunity	BS EN/EN61000-4-2,3,4,5,6,8,11

Mechanical Specifications

Dimension	32 x 100.5 x 125mm (L x W x H)
Weight	0.45kg
DC OK Signal	Relay contact ratting(max) : 30V/1A restive

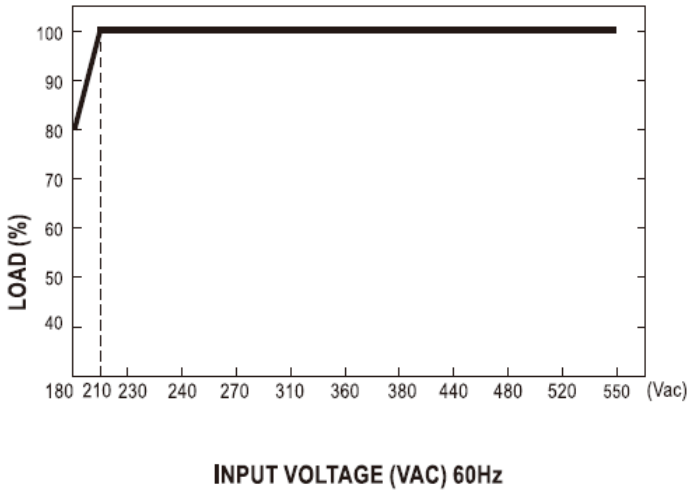
Note:
1. All parameters NOT specially mentioned at 400V AC input rated load and 25ºC of ambient temperature.
2. Ripple & Noise are measured at 20MHZ bandwidth using a 12” twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
3. Installation clearances: top with 40mm, bottom with 20mm, left and right with 5mm. Increase the space to 10-15mm when the adjacent device is the heat source.
4.The ambient temperature derating of 3.5ºC/1000m for operating higher than 2000m(6500ft)
5. The power supply is considered a component which will be installed into the final equipment. The final equipment must be re-confirmed to meet EMC directives. For guidance on performing these EMC tests, please refer to "EMI testing of component power supplies."

Derating Curve

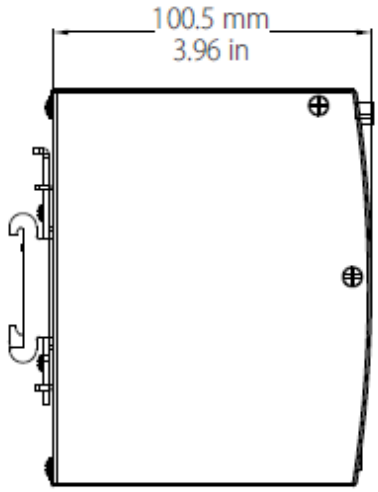


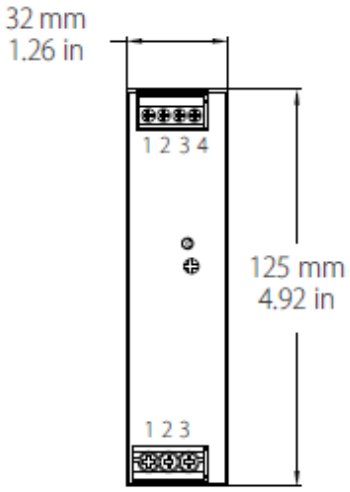
Output Derating VS Input Voltage

AC – DC



Dimensions and Recommended Layout





Input

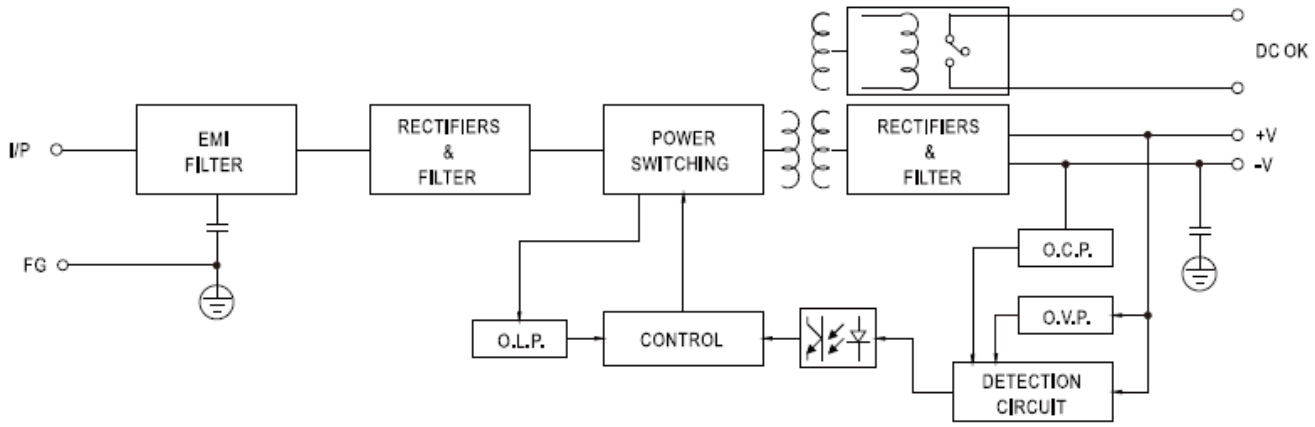
No.	Description
1	FG ⏚
2	AC/L2
3	AC/L1

Output

No.	Description
1	DC OUTPUT -V
2	DC OUTPUT +V
3,4	Relay Contact

Block Diagram

AC – DC



DC OK Relay Contact	
Contact Close	PSU turns ON/DC OK
Contact Open	PSU turns OFF/DC Fail
Contact Ratings (max)	30V/1A resistive load